

New Observations of Solar Plasma Variability from the Solar Dynamics Observatory (SDO)

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Abstract. The launch of the Solar Dynamics Observatory (SDO) in February 2010 now allows for continuous observations of the Sun on all times scales from seconds to years. The variations in the solar plasma on these time scales cause significant deviations in the Earth and space environments on similar time scales, such as affecting the densities and composition of particular atoms, molecules, and ions in the atmospheres of Earth and other planets. Presented and discussed will be examples of initial results from SDO that show how different temperature plasmas (from 50,000K to 20MK+), corresponding to different solar features in the solar atmosphere, evolve and change during solar eruptive events. The presentation will emphasize how the Solar Dynamics Observatory (SDO), the first satellite in NASA's Living with a Star program, has already improved upon current observations and how it will continue provide further insights into the variable Sun and its Heliospheric influence.

Preferred session:

(1) Sun and Heliosphere